

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 12, 14 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Opitz et al. (US 2002/0135490) and further in view of Chen (US 6,501,502).

For claim 12, Opitz discloses a smoke detector, comprising: an image sensor (Fig. 2, item 13); and a light source (Fig. 2, item 14), wherein: the image sensor records a presence of smoke at a close distance (parags 0007; 0012) and the smoke detector recognizes an intensity of the ambient light based on a signal from the image sensor (parags 0013, 0014, 0027). Opitz, discloses that the light source is matched or adjusted to the image sensor. Opitz, however, does not specifically disclose that the light source can be activated when ambient light is insufficient for the image sensor. Chen, however, discloses an image detection device where a light source is activated when ambient light is insufficient for the image sensor (col 1, lns 57-62; col 2, lns 48-55). It would have been obvious to one of ordinary skill in the art, at the time the invention was made to disclose a light source activated when ambient light is insufficient for an image sensor so that an image sensor receives an appropriate quantity of light in order to produce a clear image.

For claim 14, Opitz discloses a smoke detector, comprising: an ambient light sensor for measuring an intensity of the ambient light (parag 0014 – the intensity (fluctuations) of ambient light (illumination of the room) are sensed or recognized, then eliminated as needed); an image sensor (Fig. 2, item 13); and a light source (Fig. 2, item 14), wherein: the image sensor records a presence of smoke at a close distance (parags 0007; 0012). Opitz, however, does not specifically disclose that the light source can be activated when ambient light is insufficient for the image sensor. Chen, however, discloses an image detection device where a light source is activated when ambient light is insufficient for the image sensor (col 1, Ins 57-62; col 2, Ins 48-55). It would have been obvious to one of ordinary skill in the art, at the time the invention was made to have the light source, as disclosed by Opitz, activated when ambient light is insufficient for an image sensor, as disclosed by Chen, so that an image sensor receives an appropriate quantity of light in order to produce a clear image.

For claim 22, Opitz discloses the image sensor generates a reference image for subsequent comparisons at specified times (parags 0006, 0022, 0023, 0026).

3. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Opitz et al. (US 2002/0135490) and Chen (US 6,501,502), and further in view of Kanamori (US 6,138,826).

Opitz does not specify monitoring the image sensor at a specific distance. However, Kanamori discloses monitoring an area located at a distance of 5cm to less than 15 cm from an image sensor (Fig. 3; col 6, Ins 47-54). It would have been obvious to monitor an area from a distance from an the image sensor, as disclosed by Opitz, at

a distance of 5 cm to less than 15 cm from an image sensor, as disclosed by Kanamori, so that a very accurate, close-up image is produced.

4. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Opitz et al. (US 2002/0135490), Chen (US 6,501,502) and Kanamori (US 6,138,826), and further in view of Hansman, Jr. et al. (US 5,313,202).

Opitz discloses an optical system, but does not disclose focusing on a focal point about 10 cm from the cover. However, Hansman discloses focusing on a focal point about 10 cm from the cover (col 5, Ins 43-53; Fig. 4, item 320). It would have been obvious to disclose a cover for the optical system disclosed by Opitz in order to protect the imaging device. In addition, it would have been obvious to disclose focusing on a focal point about 10 cm from the cover so that a very accurate, close-up image is produced.

5. Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Opitz et al. (US 2002/0135490) and Chen (US 6,501,502), and further in view of Anderson et al. (US 6,958,689).

For claim 16, Opitz discloses an image sensor, but not disposed in a labyrinth. Anderson, however, discloses a sensor disposed in a labyrinth (Fig. 6, item 82; col 7, Ins 43-53). It would have been obvious to dispose the image sensor of Opitz within the labyrinth of Anderson in order to shield the image sensor from ambient light, thereby maximizing emission levels from the light to facilitate the rejection of noise such as excess amounts of ambient light.

For claim 17, Opitz discloses a light source, but does not disclose a light-emitting diode (LED). Anderson, on the other hand, discloses an LED (Fig. 6, items 80 and 84; col 7, lns 56-59). It would have been obvious to include at least one LED for testing proper operation of the smoke detector.

6. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Opitz et al. (US 2002/0135490), Chen (US 6,501,502) and further in view of Gow (US 6,097,279).

Opitz does not disclose a mounting arrangement for the detector; however, Gow discloses an arrangement for mounting a detector flush on one of a wall and a ceiling (col 1, lns 54-60; col 3, lns 17-20). It would have been obvious to flush mount the smoke detector of Opitz within a wall or ceiling in order to disguise and protect the internal components of the detector.

7. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Opitz et al. (US 2002/0135490), Chen (US 6,501,502) and further in view of Yulkowski (US 6,049,287).

Opitz discloses a camera, but does not specifically disclose a miniature camera; however, Yulkowski discloses a miniature camera (Fig. 5, item 72; col 5, lns 5-10). It would have been obvious to reduce the size of the camera disclosed by Opitz to a miniature camera as disclosed by Yulkowski so that the camera is operational while in a small space.

8. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Opitz et al. (US 2002/0135490) and Chen (US 6,501,502), and further in view of Lehman et al. (US 6,150,943).

Opitz does not disclose a field of vision of the image sensor; however, Lehman discloses a field of vision of the image sensor one of points downward and points at an angle toward a side from a detector cover (Fig. 4, items 46, 47, 48; Fig. 9; col 5, Ins 59-67). It would have been obvious to disclose the field of vision of the image sensor, disclosed by Opitz, pointing downward and at an angle toward a side from a detector cover so that the image sensor of Opitz will pick up an image of a person for surveillance and security purposes

Response to Remarks

9. Applicant's arguments filed April 18, 2008 have been fully considered but they are not persuasive.

The Applicant argues as follows:

Opitz does not disclose ambient light (pages 1 and 2 of the remarks).

Furthermore, on pages 3 and 4 of the remarks, the Applicant argues that the prior art used for claims 14-22 does not overcome the deficiencies of Opitz as applied against claim 12

The Examiner responds as follows:

Opitz discloses the intensity of light source 14 is modulated and controlled by a computing device (paragraph 0014) where fluctuations of

illumination of a room (ambient light) are eliminated by the computing device.

Since ambient light is defined as light within an environment (or within a room, as disclosed by Opitz), Opitz does indeed disclose the smoke detector as recognizing an intensity (fluctuations) of ambient light based on a signal from the image sensor.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). See MPEP § 706.07(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A Mehmood whose telephone number is (571) 272.2976. The examiner can normally be reached on M-F from 8:00am to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. George Bugg, can be reached at (571) 272.2998. The fax phone number for the organization where this application or proceeding is assigned is (571) 273.8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jennifer A. Mehmood
May 29, 2008

/George A Bugg/
Acting SPE of Art Unit 2612